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(54) Title: SEGMENTATION AND DATA MINING FOR GEL ELECTROPHORESIS IMAGES

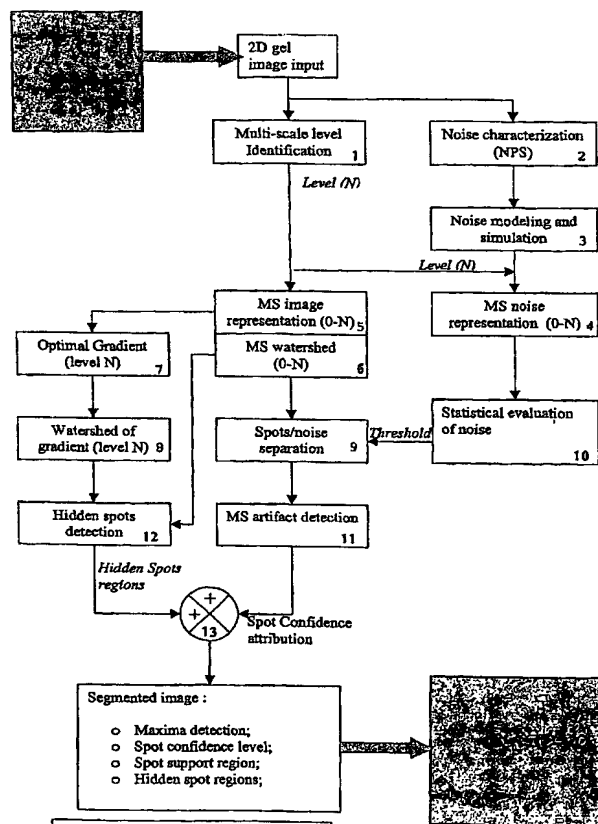


Figure 1: overall image analysis method

(57) Abstract: A segmentation method is provided for the automated segmentation of spot-light structures into D images allowing precise quantification and classification of said structures and said images, based on a plurality of criteria, and further allowing the automated identification of multi-spot based patterns present in one or a plurality of images. In a preferred embodiment, the invention is used for the analysis of 2D gel electrophoresis images, with objective of quantifying protein expressions and for allowing sophisticated multi-protein pattern based image data mining, as well as image matching, registration, and automated classification.

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